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ABSTRACT

The possibilities of influence of the race of testers on the intellectual performance of children were investigated. A four factorial design, with two response measures--the digit span and block design subtests of the Wechsler Intelligence Scale for Children--was employed. These data were gathered on students enrolled in a black and white monoracial school and a multiracial school at each of three grade levels (1, 3, and 5). A total of 240 students were selected at random. Each volunteer tester tested 12 students. Biographic, academic, and attitudinal data were also collected on the testers, and comparisons made between black and white testers. Four main effects (ract of testers, race of examinees, school type, and grade level) and their interactions were tested. Data were analyzed using multivariate analysis of variance. Significant differences were found for the main effects of examinee and school type. Significant interaction effects were found to be testers by examinees; examinees by school type; examinees by grades; and schools by grades. (DB)

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TESTERS' INFLUENCE ON CHILDREN'S INTELLECTUAL PERFORMANCE

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The purpose of this study was to investigate the possibilities of influence of the race of testers on the intellectual performance of children. Currently available evidence indicates that the race of testers may influence the test scores of pupils in dyadic test situations. At the same time, little information is available on mechanisms by which this social effect is produced or mediated. For example, studies have not indicated the extent to which the effect of testers' race is dissipated in proportion to the length of students' exposure to an integrated educational setting. Studies on biracial contact suggest that biracial contact reduces racial anxiety and hostility. This may hold true in the integrated school setting and, thus, reduce any tester-examinee racial effect. Other related literature suggests that age is one of the basic discriminants of the extent to which students are influenced by such matters as segregation, prejudice and discrimination. This literature also indicates that blacks and whites exhibit differences in racial consciousness and in their responses to in-group/out-group persons. This literature would seem to suggest that responses of students

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to racially different testers in lower grades, when compared with students in upper elementary grades, will differ.

To answer empirically the research questions derived from the review of the literature, a four factorial design, with two response measures, was employed. The response measures used were the digit span and block design subtests of the Wechsler Intelligence Scale for Children.

These data were gathered on students enrolled in a black and white monoracial school and a multiracial school, at each of three grade levels (1, 3 and 5). A total of 240 students were selected at random. Each tester, who was selected from a volunteer population, tested an equal number of children of each race, at each grade level, and in each type of school. Students were randomly assigned to the testers within each of the above conditions, so that each tester tested 12 students.

Biographic, academic and attitudinal data were also collected on the testers, and comparisons made between the black and white testers. These comparisons indicated that the whites had spent most of their lives in the suburbs and the blacks had spent most of their lives in the inner city. The two groups were not different in their attitudes toward school, the disadvantaged, or their roles as testers. There was no significant difference between the two races on a test of verbal fluency.

These data were analyzed using multivariate analysis of variance. Four main effects (race of testers, race of examinees, school type, and grade level) and their interactions were tested. Significant differences were found for the main effects of examinee and school type. Significant interaction effects were found to be testers by examinees; examinees by school type; examinees by grades; and schools by grades (Table 2). No

other significant main effects or interactions were found. The examinee differences (between the black and white students) and school differences (between the monoracial and multiracial schools) were not unusual. Of somewhat more interest, black and white examinees tested by black and white testers on block design performed better with testers of the same race, but this did not hold true for digit span. The nature of the task appeared to be related to the racial effect of testers.

The statistical findings indicated that race of the tester significantly interacted with the race of the examinee. The cell means of the data analysis (Table 1) showed that black examinees' scores tended to be lower with white testers than white examinees' scores with black testers.

In the black monoracial school, black examinees achieved higher mean scores with black testers than with white testers with two exceptions (third grade on digit span and fifth grade on block design). On the block design task, white examinees achieved higher mean scores with white testers than white examinees with black testers with two exceptions. In the monoracial school at the third grade level, and in the multiracial school at the fifth grade level, white examinees achieved higher mean scores from black testers than from white testers. However, on the digit span task, the black and white tester differences were not as consistent as the differences on block design.

On the digit span test, black examinees' mean scores in the monoracial school at the first grade level were significantly lower with white testers ($\bar{X} = 6.5$), as compared with their counterparts with black testers ($\bar{X} = 10.2$). Black examinees achieved higher mean scores from black testers in all grades except one of the multiracial school as compared with their counterparts

with white testers. In other conditions, black examinees achieved either slightly higher mean scores from white testers, or the same mean score as black testers.

White examinees, on digit span, achieved higher mean scores than black examinees with black testers in all grades, except in the multiracial school at the third grade level. This difference was greater in the monoracial school than in the multiracial school.

Suggestive of these findings is the effect of testers' race on children's intellectual performance. The block design mirrors most of this effect. Examinees tended to be more negatively influenced by other race testers on this task than on digit span. Digit span tends to reflect more favorable examinees' mean scores under other race testers, especially for white examinees.

Thus, it seems that an anxiety hypothesis does not solely explain the results. According to Wechsler, digit span is a test which is more easily influenced by anxiety than block design. If anxiety was the primary cause for the depression in examinees' scores under different race testers, then digit span should not have been non-significant as a contributory variable. An alternative explanation is needed.

Dr. Ronald Forgus (Personal Communication) indicated that, in his experiences testing, he found block design to be more reflective of an examinee's anxiety than digit span. His statement may have some validity in explaining the findings of this study. Professor Arthur R. Jensen (Personal Communication) suggested a plausible interpretation of the findings that may also explain Dr. Forgus' observations. Jensen stated,

> . . . one important difference in the administration of the two tests is that BD depends upon speed; it is one of the timed tests. DS is not timed. Working under time pressure may cause the Yerkes-Dodson Law to operate in this situation, and since BD is more difficult for the Black children, their performance is more depressed under more anxiety-arousing conditions, viz., having a white examiner. The white children go further into the BD test before it reaches the difficulty level where stress depresses performance.

Moreover, Jensen's explication indicates a consideration of latency of response as a critical variable in interpreting the data. Unfortunately, the time bonuses can not be estimated from the block design scores and retain relevant meaning when analyzed.

Another alternative explanation concerns the amount of tester-examinee interaction. Block design required testers to produce more verbal output related to the directions, instructions, and feedback for examinee success and failure. Consequently, examinees were required to make more inputs (perceptions) and more outputs (behavior). This, in itself, could have had anxiety-producing properties. Digit span required less interaction on the part of the testers and examinees. However, this is probably not the whole story. Another plausible explanation related to the amount of interaction is the quality of feedback. On the digit span test, the examinee was quite unaware of any glaring error, and any verbal feedback from the tester was minimal. However, block design easily mirrored mistakes and feedback from the tester was greater than that for digit span. In a study by Katz, et al.,[1] type of feedback was critical to the biracial test

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[1]Katz, I., Epps, E. G., Atchison, C. O., and Perry, A. "Factors Affecting Response to White Intellectual Standards at Two Negro Colleges." Psychological Report. Vol. No. XXVII (1970), 995-1003.

situation. Similar findings were evidencedby Kennedy and Vega.[2] In this experiment, blacks performed better under same race testers when negative reinforcement was administered. The block design test could have produced more "blame conditions" for both blacks and whites than the digit span test. Thus, there was a tendency for both groups to perform better on block design under same race testers.

Although grade level by school types interaction was not significant, it seems appropriate to comment on this finding. At the first grade level, cell means showed that, on block design, both black and white subjects performed better under same race testers across school types than with different race testers. This effect was most apparent in the black monoracial school.

In the black monoracial school at the first grade level, it is plausible that the effect was due primarily to anxiety. None of the students was in classes with white teachers or white peers. For all of these examiners it was probably the first time being alone with someone white. It can be noted, by inspecting the cell means, that the mean scores of black examinees under black and white testers showed less difference at the third and fifth grades. It is possible that, by third grade, black examinees had more contact with whites.

Black examinees in the multiracial school scored consistently higher under black testers than under white testers. This was consistent across

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[2]Kennedy, Wallace A., and Vega, M. "Negro Children Performance on a Discrimination Task as a Function of Examiner Race and Verbal Incentive." Journal of Personality and Social Psychology. Vol. No. VI (1965), 839-843.

all grades and both tasks. Only at grade five did the mean score for black examinees under black testers ($\bar{X}$ = 10.0) fall below that of black examinees under white testers ($\bar{X}$ = 10.4). From these results, two alternative explanations are possible.

It is possible that desegregation causes blacks to have increased racial awareness of their blackness and, also, subsequent identification with other people of blackness. There is a possible interaction of the two phenomena that act to increase the motivation of blacks tested by blacks in the multiracial school. In the multiracial school, it is possible that the black student suffered a loss of ethnic identification. Both of these propositions seem to us to deserve further investigation. However, contrary to popular conception, interracial contact appears to have a negative effect when applied to a biracial test situation.

The analyses of data yielded other significant results which were not directly related to the hypotheses, and will be only briefly mentioned here.

The significant main effects were the type of school and the race of examinees. These effects have very little meaning in the context of this study. For instance, the race of examinee effect says that the white students achieved a significantly higher mean score on both tasks than did black examinees. The other main effect (type of school) indicates that students in multiracial schools had a significantly higher mean score than students in monoracial schools, with most of this variation carried by digit span. The composite interaction effects of school type by examinees were significant. Blacks were different from whites in the various school types.

The results of this research endeavor are suggestive of the structuring

of dyadic test environments in monoracial and multiracial schools. It appears that young black children in the monoracial school tested by white testers showed the greatest depression in test scores. Thus, it is possible that any dyadic test situation should be structured in such a way as to optimize performance, and should consider grade level and type of school. It is at the first grade level that children are tested for placement in regular classrooms, or those classrooms that are geared for pupils who had test scores below the cutoff level to enter the regular classroom. The racial effect of the tester also exists for first graders in the other school types, but it is not as significant.

For black students at all grade levels in the multiracial school, it seems likely that test performance would be optimized when they are tested by the same race tester. For whites in the multiracial and monoracial schools, and blacks in the monoracial school above grade one, it seems to be a function of task whether the students are negatively or positively affected by the race of a tester.

Usually, in monoracial schools, students are tested by the same race tester. This is not true typically in multiracial schools. Therefore, until more is known about the effect of a tester's race on children's performance, it would appear better on the evidence of this study to have all students tested by testers of the same race.